Booming Exports Good for Jobs

When Abraham Lincoln created the U.S. Department of Agriculture in 1862, about 9 out of 10 Americans could be considered farmers. Today, that number has shrunk to just 2 out of every 100. Yet the Department's motto, emblazoned across the bottom of the official USDA seal, is just as true as it was 135 years ago: "Agriculture is the foundation of manufacture and commerce."

We've all heard about the U.S. trade imbalance—how America buys more goods from other countries than it sells. It's all too true: The U.S. trade deficit for the federal fiscal year 1995 was a massive $27.4 billion.

But the bright spot in that trade picture, the shining star, is agricultural exports. The United States sold a record $59.8 billion in farm goods around the world in FY 95. According to USDA's Foreign Agricultural Service, dollar for dollar, this country exports more wheat than steel, more meat than aluminum, and more fruits and vegetables than ships, trucks, and boats combined.

Do agricultural exports mean anything to the average American—those 98 out of 100 people who don't make their living from the farm? As a matter of fact, they do: U.S. exports of agricultural goods, fish, and wood created an estimated 960,000 new full-time domestic jobs in this country in 1994, for example. That's about 18,000 jobs for every $1 billion of goods this country shipped overseas that year. USDA economists calculate that every dollar we get from agricultural exports stimulates another $1.38 in business activity for the U.S. economy.

ARS scientists across the country are concentrating on helping America capture even more of those valuable export dollars. In this issue of *Agricultural Research*, you'll read about how an ARS researcher in Arkansas teamed up with a local farmer to find just the right rice that would thrive on Arkansas' Grand Prairie and in Tokyo's markets. That's only one of many examples of ARS attention to the export market. Here are a few others:

- In Ames, Iowa, ARS researchers developed a test to pinpoint whether pigs headed to export markets are actually infected with porcine reproductive and respiratory syndrome (PRRS) or have simply been vaccinated against the disease at some point. Certain countries have restricted shipments of hogs or semen that might spread the disease. This posed a knotty problem for U.S. pork producers because no test existed to distinguish between vaccinated pigs and those that had actually been infected—until now. The new ARS test has proved effective in distinguishing isolates from 90 field strains of PRRS versus isolates from vaccinated pigs.
- A similar dilemma existed in the plant world. Mycoplasmalike organisms (MLO's) can wreak havoc in a variety of plants, ranging from fruit trees and vegetable crops to ornamentals. To make matters worse, the same MLO can cause different symptoms in different plants, suggesting a different culprit is at work. Some export markets have been closed to U.S. crops for fear of importing a "new" MLO into an overseas region. Now ARS researchers have used DNA probes to reveal whether seemingly different MLO's are actually related. They've sorted the pathogens into genetically similar clusters and have further fine-tuned these classifications into types, which could open the doors to some previously closed export markets for a whole range of U.S. agricultural goods.
- A 77-year-old mistake about a wheat fungus in California was corrected by an ARS scientist, clearing the way for wheat trade between California and China. The Chinese government had imposed a zero-tolerance level for spores of the fungus, *Tilletia controversa*, that causes dwarf bunt disease—not known to occur in China. China's quarantine could be traced, in part, to a USDA employee's report in 1917 that he'd collected the fungus in California. But in 1994, an ARS researcher uncovered evidence, including a specimen from the U.S. National Fungus Collection and documents at the National Archives, that showed the collector was wrong; the culprit specimen had come from Oregon. Based on this finding, China lifted its quarantine on wheat from California, which produces about 1.3 million metric tons annually.
- An ARS-developed cold treatment for carambola proved the key to cracking the lucrative Japanese market for this tasty fruit—and incidentally, to reaching the California market, where many Asian immigrants have fond carambola memories. No approved method existed to keep Florida carambola from carrying hitchhiking Caribbean fruit flies that could threaten California citrus, so Florida growers couldn't ship the fruit to California. But in 1989, the ARS treatment won approval. It involved holding the fruit at 34°F for 15 days—later shortened to 12 days—to wipe out lurking fruit flies. The result: Florida carambolas were a big hit in California, and in 1995, Japan said that it, too, would approve their importation if they'd undergone the ARS cold treatment.

Agricultural research keeps American agricultural exports flowing, and agricultural exports keep Americans working—from the farmers who grow the crops to the people who store, package, process, and ship the goods. That's one reason why agricultural research is such a good investment in the U.S. economy.

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